

## REMARKS

Claims 1-12 are pending herein.

### I. The anticipation rejections based on Matsumoto et al. (US 6,523,948 B2).

The USPTO respectfully rejects Claims 1-10 under 35 U.S.C. § 102(e) as being anticipated by Matsumoto et al.

A. Matsumoto does not disclose a control section that controls the illumination of light radiated from a light source on the basis of a result detected by at least one of a temperature sensor and a humidity sensor.

Regarding the limitations of claim 1 that claim in relevant part:

“a control section for controlling an illumination of light which is radiated from the light source,

**wherein the control section controls the illumination on the basis of a result detected by at least one of the temperature sensor and the humidity sensor.” (emphasis added)**

it is respectfully not seen where Matsumoto discloses the claimed structure quoted above.

Specifically, Figure 1 of Matsumoto discloses a controller 31, as the USPTO respectfully notes on page 2 of the Office Action. However, controller 31 does not control the illumination of light from a light source on the basis of a result detected by at least one of the temperature sensor and the humidity sensor, as claimed in claim 1. In fact, **controller 31 does not appear to control illumination of light at all.** For example, the specification of Matsumoto discloses that controller 31 controls head driver 30 and heating elements 27 (see col. 5, lines 21-23 and col. 7 lines 48-53) or controls motor 48 (see col. 7 lines 8-10). However, **there does not appear to be any disclosure in the specification of Matsumoto that controller 31 controls an illumination of light,** as claimed in claim 1.

Furthermore, as the USPTO respectfully notes on page 3 of the Office Action, Matsumoto discloses that the controller 31 receives results from a temperature sensor and the humidity sensor (see col. 12, lines 25-39). However, **controller 31 does not control illumination from a light source on the basis of these results from the sensors,** as claimed

in claim 1. Instead, as noted specifically in col. 12, lines 31-34 of Matsumoto, **the controller 31 uses the results from the temperature sensor and the humidity sensor to compensate for drive data to be applied to heating element 27** shown in Figure 1 of Matsumoto. This is clearly different from using the results of the sensors to control the illumination from a light source, as claimed in claim 1.

In contrast, present Figures 3, 4A, and 4B illustrate one possible embodiment of the specifically claimed structure quoted above. As explained on page 16 of the present specification **control section 20 controls the illumination of each line-shaped light source 11a-15a and 11b-15b on the basis of the results detected by temperature sensor 16 and humidity sensor 17**. Figures 4A and 4B are tables that show in detail how controller 20 controls the illumination of the light sources based on temperature and humidity (see pages 16-17 of the present specification for further explanation). Thus, control section 20 is a controller that controls the illumination from a light source on the basis of a result detected by at least one of the temperature sensor and the humidity sensor, as claimed in claim 1.

Thus, it is respectfully asserted that Matsumoto does not disclose all the limitations of claim 1. Therefore, it is respectfully asserted that Matsumoto does not anticipate claim 1. Applicants further note that the reasoning above applies equally to new claim 12, and therefore Matsumoto does not anticipate claim 12.

#### **B. Further explanation.**

One of the key features of the specifically claimed apparatus of claim 1 is the presence of at least one of a temperature sensor 16 and a humidity sensor 17, as shown in present Figure 1. These sensors are used to detect temperature and humidity adjacent to a recording medium. The detected temperature and humidity are used **to control an illumination of light** based on the detected results, resulting in a good image formed by similarly sized cured ink droplets.

In contrast, the cited references **do not disclose controlling the illumination of light** (such as intensity or amount of illumination) based on the temperature and/or humidity adjacent to the recording medium. According to the technique of the cited references, even when there is a constant discharge rate of ink, the diameter of an ink droplet may be changed

by the environmental temperature and humidity, so that a good image cannot be obtained.

Generally, the curing property of a photo-curable type ink changes depending on the environmental temperature and humidity. Therefore, even when the discharge rate of a liquid, for example, ink, is constant, the diameter of a liquid droplet may be changed by the change of the environmental temperature and humidity. When the curing property of photo-curable ink is changed, ink curing time varies even if irradiating with constant illumination. Accordingly, the dot diameter of ink droplets cured may be varied. Variation of the curing property of ink droplets causes deterioration of an image quality formed by ink droplets.

Matsumoto discloses changing the heating amount of a heating device according to the environmental humidity and temperature (see column 12, lines 25-39 of Matsumoto). However, the detected environmental temperature or humidity is for controlling the drive data to be applied to the heating elements, **not for controlling an illumination of light**. The object of changing the heat amount, i.e. the heating temperature, is to promote drying of the droplet.

Matsumoto further discloses changing an intensity or an amount of ultraviolet rays according to the ejected amount of ink droplets (see column 14, lines 35-68 of Matsumoto). In other words, in the case of a small amount of ink, a small intensity of ultraviolet light is emitted, and in the case of a large amount of ink droplets, a large intensity of ultraviolet light is emitted. The object of this technique is to promote drying of the droplet and to prevent yellowing of paper according to excessive irradiation.

However, Matsumoto does not disclose changing the intensity of illumination according to the environmental temperature or humidity. Changing intensity is absolutely different from changing the heating amount of a heating device in its object and effect.

Although raising the temperature of the recording medium or ink may activate curing of ink, such raising the temperature without changing illumination of light is not equivalent to supply an illumination of light for curing droplets sufficiently.

### C. The dependent claims.

As noted above, it is respectfully asserted that independent claim 1 is allowable, and therefore dependent claims 2-10 are also allowable.

### II. The obviousness rejections based on Matsumoto.

The USPTO respectfully rejects Claim 11 under U.S.C. § 103(a) as being obvious over Matsumoto in view of Ohta et al (US 6,211,265 B1). As noted above, it is respectfully asserted that Matsumoto does not teach all the limitations of independent claim 1. It is further respectfully asserted that Ohta does not overcome these deficiencies in Matsumoto. Therefore, it is respectfully asserted that dependent claim 11 is also allowable.

Additionally, Applicants respectfully note that Ohta discloses a water based ink, which is different from the “liquid of a photo-curable type” as claimed in claim 1.

### III. New claim 12.

Applicants respectfully assert that claim 12 can be entered after final rejection pursuant to 37 C.F.R. 1.116 because claim 12 is almost identical to claim 1. Claim 12 merely deletes the limitation of “at least one temperature sensor limitation” from claim 1. Therefore, no new search is required and the amendment can be entered.

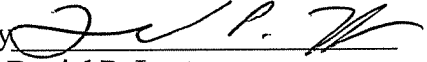
IV. Conclusion.

Reconsideration and allowance of all of the claims is respectfully requested.

If there are any additional charges with respect to this Amendment or otherwise, please charge them to Deposit Account No. 06-1130.

Please contact the undersigned for any reason. Applicants seek to cooperate with the Examiner including via telephone if convenient for the Examiner.

Respectfully submitted,

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